SOMICON AG
Membrane- Process & Pharmaceutical Technology

Enquiry for Energy Recovery Devices and High Pressure Pumps

In order to assist you to select the right energy recovery device (and if needed the high pressure pumps), kindly provide us the information requested. The accuracy of information is crucial to select the right equipment. In case you need assistance, please do not hesitate to contact us.

A. Customer Data

1. **Company Name:** _____
2. **Contact Person:** _____
3. **Telephone:** _____ **Fax:** _____
4. **E-Mail:** _____

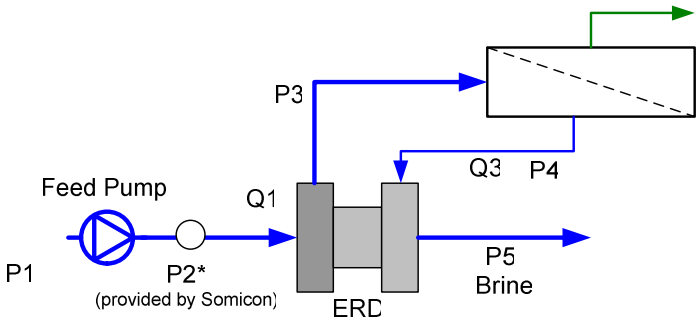
B. Application

1. **Seawater RO** ☐
2. **Brackish Water RO** ☐
3. **Process RO & Process Nanofiltration** ☐
4. **Fluid Processing (fluid stream throttled from high pressure)** ☐
5. **Others (please specify)** ☐

Please fill out only the relevant section in C below.

C. Process or Design Details

C.1 & C.2 Seawater / Brackish Water RO:



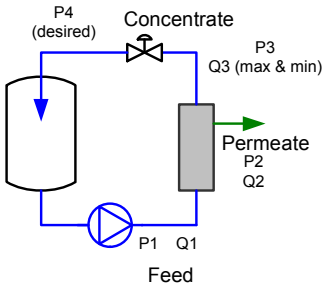
Feed Flow (Q1) - m^3/h: _____
Brine Flow (Q3) - m^3/h: _____
Pump Inlet Pressure (P1) - bar: _____
(P2) Provided by Somicon - bar: _____
Membrane Pressure (P3) - bar: _____
Brine Pressure (P4) – bar: _____
Exhaust Pressure (P5) - bar (recommended minimum 0.5 bar): _____

Select the type of equipment quotation requested:

ERD Only: _____ **HP Pump Only:** _____ **ERD & HP Pump package:** _____
No of units or trains: _____
Feed TDS (ppm): _____

C.3 Process RO and Nanofiltration

C.3.1 Type of Plant: Simple Batch



Feed Flow (Q1) - m³/h:_____
Feed Pressure (P1) - bar:_____
Permeate Flow (Q2) - m³/h:_____
Permeate Pressure (P2) - bar (only to transport permeate to a higher elevation), - bar:_____

- **Concentrate Flow (Q3) – maximum - m³/h:**_____
- **Maximum Concentrate Pressure (P3) at Q3 max - bar:**_____
- **Minimum Concentrate Pressure (P3) at Q3 max - bar:**_____

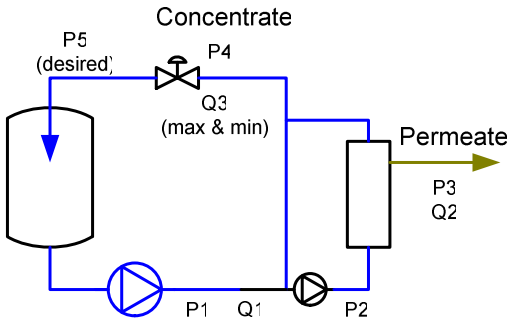
- **Concentrate Flow (Q3) – minimum - m³/h:**_____
- **Maximum Concentrate Pressure (P3) at Q3 min - bar:**_____
- **Minimum Concentrate Pressure (P3) at Q3 min - bar:**_____

Minimum Density of the fluid - kg/m³:_____
Maximum density of the fluid - kg/m³:_____
Viscosity of the fluid - cP:_____
pH of the fluid:_____
Process Temperature - °C: _____
Materials for the wetted parts:_____
Special Sealing requirements:_____
_____
Does your feed pump has a variable frequency drive (VFD)?:_____
Can the motor of the feed pump be fitted with VFD (frequency converter)?:_____

Select the type of equipment quotation requested:

ERD Only:_____**HP Pump Only:**_____ **ERD & HP Pump package:**_____
No of units or trains:_____

C.3.2 Type of Plant : Feed and Bleed:



Feed Flow (Q1) - m³/h:_____
Feed Pressure (P1) - bar:_____
Permeate Flow (Q2) - m³/h:_____
Permeate Pressure (P3) bar (only to transport permeate to a higher elevation) - bar:_____

- **Concentrate Flow (Q3) – maximum - m³/h:**_____
- **Maximum Concentrate Pressure (P4) at Q3 max - bar:**_____
- **Minimum Concentrate Pressure (P4) at Q3 max - bar:**_____

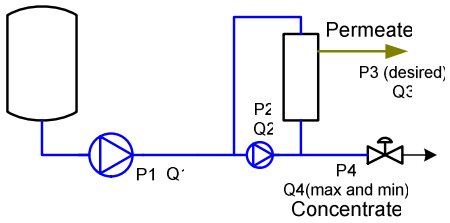
- **Concentrate Flow (Q3) – minimum - m³/h:**_____
- **Maximum Concentrate Pressure (P4) at Q3 min - bar:**_____
- **Minimum Concentrate Pressure (P4) at Q3 min - bar:**_____

Minimum Density of the fluid - kg/m³:_____
Maximum density of the fluid - kg/m³:_____
Viscosity of the fluid - cP:_____
pH of the fluid:_____
Process Temperature - °C:_____
Materials for the wetted parts:_____
Special Sealing requirements:_____
_____
Does your feed pump has a variable frequency drive (VFD)?:_____
Can the motor of the feed pump be fitted with VFD (frequency converter)?:_____

Select the type of equipment quotation requested:

ERD Only:_____**HP Pump Only:**_____ **ERD & HP Pump package:**_____
No of units or trains:_____

C3.3 Type of Plant : Continuous



Feed Flow (Q1) - m³/h:_____
Feed Pressure (P1) - bar:_____
Circulation Flow (if applicable) (Q2) - m³/h:_____
Pressure prior to Membrane Block (if applicable) (P2) - bar:_____
Permeate Flow (Q3) - m³/h:_____
Permeate Pressure (P3) bar (only to transport permeate to a higher elevation) - bar:_____

- **Concentrate Flow (Q4) maximum, - m³/h:**_____
- **Maximum Concentrate Pressure (P4) at Q4 max, - bar:**_____
- **Minimum Concentrate Pressure (P4) at Q4 max, - bar:**_____

- **Concentrate Flow (Q3) – minimum, m³/h:**_____
- **Maximum Concentrate Pressure (P4) at Q4 min, - bar:**_____
- **Minimum Concentrate Pressure (P4) at Q4 min, - bar:** _____

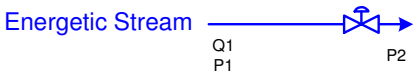
Minimum Density of the fluid - kg/m³:_____
Maximum density of the fluid - kg/m³:_____
Viscosity of the fluid - cP:_____
Process Temperature - °C:_____
Allowable Materials for the wetted parts:_____
Special specifications on seals:_____
_____
Does your feed pump has a variable frequency drive (VFD)?:_____
Can the motor of the feed pump be fitted with VFD (frequency converter)?:_____

Select the type of equipment quotation requested:

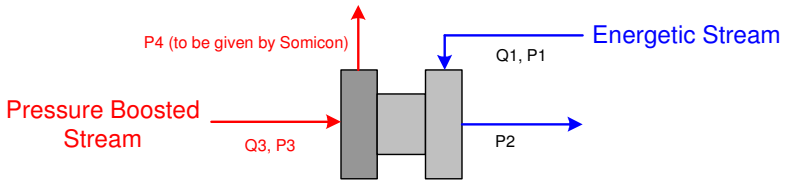
ERD Only:_____ **HP Pump Only:**_____ **ERD & HP Pump package:**_____
No of units or trains:_____

C.4 Fluid Processing

Minimum Density of the Energetic Stream - kg/m³:_____
Maximum density of the Energetic Stream - kg/m³:_____
Viscosity of the Energetic Stream - cP:_____
Operating Temperature - °C:_____
pH of the Energetic Stream:_____



Current Situation



Desired Situation

Flow Rate (Q1) - m³/h:_____
Pressure before throttling (P1) - bar:_____
Pressure after throttling (P2) - bar:_____

Recovery desired as:

1. **Pressure Boost for another stream yes ☐ /no ☐ (if yes, please provide following data)**

   - **Flow Rate of the Boosted Stream (Q3) - bar:**_____
   - **Pressure of the Boosted Stream before the boost (P3) - bar:**_____
   - **Pressure boost (P4) will be provided by Somicon:**_____
   - **Density of the Boosted Stream - kg/m³:**_____
   - **Viscosity of the Boosted Btream – cP:**_____
   - **pH of the Boosted Stream:**_____

2. **Others: Please elaborate on a separate page.**

Additional Information:

- **Allowable Pump and ERD materials (wetted parts):**_____
- **Seal specifications:**_____

Select the type of equipment quotation requested:

ERD Only:_____**ERD & HP Pumps:**_____
No of units or trains:_____

C.4 Other Processes:

Please write to us in details about your idea of using ERDs. We shall contact you thereafter.